# UNITED STATES PATENT AND TRADEMARK OFFICE

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| 10/799,871 | 03/12/2004 | David A. Pintsov | 11JN-123385 | 6131 |

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| | Application No. | Applicant(s) |
| :---: | :--- | :--- |
| **Office Action Summary** | 10/799,871 | PINTSOV ET AL. |
| | **Examiner** | **Art Unit** | |
| | David P. Rashid | 2624 | |

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) ☐ Responsive to communication(s) filed on _____.

2a) ☐ This action is **FINAL**.    2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4) ☒ Claim(s) *1-22* is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-22* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a) ☐ All   b) ☐ Some * c) ☐ None of:

         1. ☐ Certified copies of the priority documents have been received.

         2. ☐ Certified copies of the priority documents have been received in Application No. _____.

         3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
     Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
     Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

## DETAILED ACTION

All of the examiner's suggestions presented herein below have been assumed for examination

purposes, unless otherwise noted.

### *Continued Examination Under 37 CFR 1.114*

1.    A request for continued examination under 37 CFR 1.114, including the fee set forth in

37 CFR 1.17(e), was filed in this application after final rejection. Since this application is

eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e)

has been timely paid, the finality of the previous Office action has been withdrawn pursuant to

37 CFR 1.114. Applicant's submission filed on 7/30/2007 has been entered.

### *Amendments*

2.    This office action is responsive to the claim and specification amendment received on

7/30/2007. **Claims 1 – 22** remain pending.

### *Claim Objections*

3.    In response to applicant's claim objections amendments and remarks received on

7/30/2007, the previous claim objections are withdrawn.

### *Claim Rejections - 35 USC § 102*

5.    The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6.      **Claims 1-22** are rejected under 35 U.S.C. 102(b) as being anticipated by Stolfo (US

5,668,897 A).

Regarding **claims 1** and **9**, Stolfo discloses a method of automatically selecting document

templates (FIG. 4; Col. 1, lines 17 – 25), comprising the steps of:

presenting a document image from an account (Col. 17, lines 56 – 61; FIG. 4, element

58);

matching (FIG. 1, elements 3, 5) the document image against a series of known document

templates from the account ("matching" and "codebook of templates" in Col. 15, lines 5 – 14;

FIG. 4, element 62), each document template including information about a unique layout of a

particular document image ("...each record has unique elements...that distinguishes one record

from another." in Col. 15, lines 17 – 23; Col. 15, lines 46 – 51) to allow that particular document

to be identified (FIG. 6, elements 102 through 122) and information in that particular document

to be identified and read ("Y" from elements 108, 112, 118 in FIG. 6); and

producing confidence scores corresponding to the degree of similarity of the document

image compared to each document template (Col. 14, lines 59 – 62, Col. 22, lines 42 – 50).

For clarification, Stolfo teaches two possibilities regarding high and low similarity thresholds for confidence score X (Case 1 will be assumed for examination purposes, though both are equally applicable) in regard to background pattern matching:

**Case 1** (the high and low similarity threshold = lambda)

| $0<=X<lambda$ | "above lambda" | (steps 112 or 108) |
| $X>lambda$ | "below lambda" | (step 118) |

**Case 2** (high similarity threshold = 0, low similarity threshold = lambda)

| X=0=MATCH | "above lambda" | (step 108) |
| $X>lambda$ | "below lambda" | (step 118) |

Regarding **claims 2** and **3**, Stolfo discloses the method of claim 1, further comprising the step of matching the confidence scores with a predetermined high similarity threshold (Referring to FIG. 6, the check image undergoes the step of searching a database (106) in search for either a complete match (108), a match within tolerance (112), or a match of any combination of patterns (118). "The input image is deemed to be a match whenever the distance is less than a preestablished threshold (.lambda.).", column 3, line 28. It can be inferred that a high similarity threshold is when the calculated distance is less than (considered "above" when negating) a pre-established lambda (step 108 or 112).).

Regarding **claim 4**, Stolfo discloses the method of claim 1, further comprising the step of matching the confidence score with a predetermined low similarity threshold (The high similarity threshold as disclosed in Stolfo can also constitute a low similarity threshold also if any calculated lambda value is greater than (considered "below" when negating) a pre-established lambda as discussed above (step 118).).

Regarding **claim 5**, Stolfo discloses the method of claim 4, further comprising the step of

creating a new document template for the account corresponding to the document image if the

confidence score is below the predetermined low similarity threshold (FIG. 6, reference numeral

124 shows that a background of the check image below the pre-established lambda value is

compressed. In addition, "It is another object of the present invention to provide variable-size or

scaled check images retained on storage media, including decompression by utilizing codebook

code to render full color and faithful reproductions of archived check images.", column 11, line

42, and thus it can be inferred that if the check image in question has been compressed into the

memory for future decompression when exerting the algorithm, a new document template for the

account has been produced.).

Regarding **claim 6**, Stolfo discloses the method of claim 4, further comprising the step of

applying a partial layout comparison to the image and the closest matching template if the

confidence score is above the low similarity threshold (Other than the background pattern

template comparison as discussed above, FIG. 4 shows a signature comparison as well. Because

of these two separate databases and comparisons, the background pattern template comparison

(having FIG. 6 in more detail) can be considered a partial layout comparison of the check as a

whole. It has already been discussed above that if the confidence score and the low similarity

threshold is equivalent to the high similarity threshold (Case 1), being above the low similarity

threshold is equivalent to the high similarity threshold range as already discussed in claim 3.).

Regarding **claim 7**, Stolfo discloses the method of claim 6, further comprising the step of

providing results of the partial layout comparison including a list of image parts and a

corresponding confidence score for each image part (Other than the background pattern template

comparison as discussed above, FIG. 4 shows a signature comparison as well. "In one embodiment according to the present invention, the payor's signature on the check 50 is verified for authenticity by comparing it with a database of signatures 84 including a representation of the signature of the drawer. If the signature does not match a corresponding signature in the database 86, the bank operator needs to be informed for manual verification and the possibility of a possible fraudulent check 88.", column 26, line 66. It is inherent that comparing a signature to signatures in a database requires some threshold or confidence score.).

Regarding **claim 8**, Stolfo discloses the method of claim 7, further comprising the step of creating one or more exclusion zones corresponding to image parts that exhibit a low confidence score (FIG. 4, elements 88, 66, 94 such that "exclusion zones" are those actions taken if the image part of the check does not match within a pre-established threshold for questioning the authenticity of the check, as the checks are "excluded" from further processing).

Regarding **claim 9**, claim 9 recites identical features as in claim 1. Thus, arguments equivalent to that presented above for claim 1 are equally applicable to claim 9.

Regarding **claim 10**, claim 10 recites identical features as in claims 1, 2, 4, and 9. Thus, arguments equivalent to that presented above for claims 1, 2, 4 and 9 are equally applicable to claim 10.

Regarding **claim 11**, claim 11 recites identical features as in claim 3. Thus, arguments equivalent to that presented above for claim 3 is equally applicable to claim 11.

Regarding **claim 12**, claim 12 recites identical features as in claim 5. Thus, arguments equivalent to that presented above for claim 5 is equally applicable to claim 12.

Regarding **claim 13**, claim 13 recites identical features as in claim 6. Thus, arguments

equivalent to that presented above for claim 6 is equally applicable to claim 13.

Regarding **claim 14**, claim 14 recites identical features as in claim 7. Thus, arguments

equivalent to that presented above for claim 7 is equally applicable to claim 14.

Regarding **claim 15**, claim 15 recites identical features as in claim 8. Thus, arguments

equivalent to that presented above for claim 8 is equally applicable to claim 15.

Regarding **claims 16** and **22**, claims 16 and 22 recites identical features as in claims 1, 2,

4 and 9. Thus, arguments equivalent to that presented above for claims 1, 2, 4 and 9 are equally

applicable to claims 16 and 22 in addition to performing the method using a computer program

and machine readable instructions as disclosed: "Thus, the invention includes, as a feature, the

creation and maintenance of a codebook library of scanned check information, in a suitable

storage form, e.g. actual image or compressed image data of various resolutions, that can be used

to regenerate the actual image data, through the use of an algorithm executed by a computer or a

series of mathematical equations that can compare the features and relationships (e.g. geometric)

between the codebook and the actual regenerated image.", column 9, line 3.

Regarding **claim 17**, claim 17 recites identical features as in claim 3. Thus, arguments

equivalent to that presented above for claim 3 is equally applicable to claim 17.

Regarding **claim 18**, claim 18 recites identical features as in claim 5. Thus, arguments

equivalent to that presented above for claim 5 is equally applicable to claim 18.

Regarding **claim 19**, Stolfo discloses the computer program of claim 16, further

comprising machine readable instructions for applying a partial layout comparison to the

document image and the closest matching document template if the confidence score is above the

low similarity threshold and below the high similarity threshold (FIG. 6 again shows the

background portion of the check being compared to database templates (partial layout

comparison) for both the low and high similarity threshold comparisons against the confidence

score. Arguments equivalent to that presented above for claims 3 and 5 is equally applicable to

claim 19 since the low and high similarity threshold comparisons are equivalent in Case 1.).

Regarding **claim 20**, claim 20 recites identical features as in claim 7. Thus, arguments

equivalent to that presented above for claim 7 is equally applicable to claim 20.

Regarding **claim 21**, claim 21 recites identical features as in claim 8. Thus, arguments

equivalent to that presented above for claim 8 is equally applicable to claim 21.

### *Response to Arguments*

4.     Applicant's arguments filed on 7/30/2007 with respect to **claims 1 – 22** have been

respectfully and fully considered, but are not found persuasive.

5.     **Summary of Remarks** regarding **claims 1, 10,** and **16**:

(i)     Applicant argues that Stolfo does not include document/check templates as described in

the current application and as recited in independent claims 1, 10, and 16. The Action states that

Stolfo discloses document templates; however, the templates of Stolfo are not the same as the

document templates in the present application (@ *response page 8*).

(ii)     Applicant argues that although Stolfo teaches a plurality of records where each record's

"identifying code" may allow a particular document's *background* to be identified for the purpose

of subtracting the background from an image to allow for compression (see, e.g., column 15 lines

5-16), *Stolfo fails to teach* that each record contains information about a unique layout to allow

the document *itself to* be identified and *information* in that particular document *to be identified*

*and read.* The "collection of identifiers" in the Stolfo records only distinguishes the records

from each other *(Id.),* and has no role in identifying a particular document or allowing

information in a particular document to be identified and read *(@ response page 9).*

(iii)     Applicant argues that although Stolfo teaches that information, such as a signature from a

document/check, may be identified (see, e.g., column 26, lines 57-66; column 27-5), the records

of Stolfo themselves do not include information about a unique layout to allow information in a

particular document to be identified and read, as would be required by claims 1, 10, and 16.

Rather, Stolfo teaches that the information is obtained from the remainder after the records are

used to subtract the document background away *(@ response page 9).*

6.     **Examiner's Response** regarding **claims 1, 10,** and **16**:

(i)     However, just because the templates of Stolfo are not the same as the document templates

in the present applicant does not mean the claims should be read strictly within the limits of the

original disclosure.  Claims that read on both on the original disclosure and prior art such as

Stolfo suggest a broad scope.

(ii)     Though it is true Stolfo teaches a plurality of records where each record's "identifying

code" may allow a particular document's background to be identified for the purpose of

subtracting the background from an image to allow for compression, it is also true that Stolfo

teaches that each record ("code from codebook" in elements 110, 114, 120 in FIG. 6) contains

information about a unique layout ("...each record has unique elements...that distinguishes one

record from another." in Col. 15, lines 17 – 23; Col. 15, lines 46 – 51; Col. 15, lines 5 – 11) to

allow the document itself to be identified (the document (scanned check) is "identified" through

any of the "Y" from elements 108, 112, 118 in FIG. 6) and information in that particular

document to be identified and read (information from the particular check being "identified and

read" in that the background pattern is now known to be existing or new). Thus, Stolfo has a

role in identifying a particular document or allowing information in a particular document to be

identified and read, because the information obtained from background pattern matching is that

the algorithm identifies/reads what background that particular check document matches

(elements 108, 112 in FIG. 6) or in combination thereof (element 118 in FIG. 6).

Other than background pattern matching, the same function above is also applied to other

parts of the check including signature, identifying code, and date. Each record (those in the

databases within elements 62, 86, 92 in FIG. 6) contains information about a unique layout (e.g.

the "signature template" in the database for element 84 in FIG. 6 is a unique layout in that no two

signatures are the same between individuals/records) to allow the document itself to be identified

(e.g. the signature within the check is "identified" through the "Y" from element 86 in FIG. 6)

and information in that particular document to be identified and read (e.g. information from the

particular check being "identified and read" in that the algorithm knows that it is not a fraudulent

check, element 88 in FIG. 4).

These other examples given above also produce confidence scores corresponding to the

degree of similarity ("Yes/100%" or "No/0%" in the match comparison) of the document image

compared to each document template.

(iii)     Though it is true Stolfo teaches that information, such as a signature from a

document/check, may be identified, the records of Stolfo themselves also include information

about a unique layout to allow information in a particular document to be identified and read (see

the argument above in **Section 6(ii)** with regard to background pattern as well as date, signature,

and identifying code matching).

7.     **Summary of Remarks** regarding **claims 2 – 9, 11 – 15,** and **17 – 22**:

Applicant argues claims 2 – 9, 11 – 15, and 17 – 22 are distinguishable from Stolfo by

virtue of their dependent on claims 1, 10 and 16 (@ *response page 10*).

8.     **Examiner's Response** regarding **claims 2 – 9, 11 – 15,** and **17 – 22**:

However, it has been shown above that claims 1, 10, and 16 are anticipated by Stolfo –

thus dependent claims 2 – 9, 11 – 15, and 17 – 22 are not distinguishable from Stolfo by virtue of

their dependent on claims 1, 10 and 16.

9.     **Summary of Remarks** regarding **claims 8, 15,** and **21**:

Applicant argues that the present invention's description of exclusion zone, however is

different from the examiner's interpretation.  Consequently, Stolfo fails to teach the creation of

one or more exclusion zones corresponding to image parts that exhibit a low confidence score (@

*response page 10*).

10.    **Examiner's Response** regarding **claims 8, 15,** and **21**:

Though the applicant's interpretation of "exclusion zone" is different from that of the

examiner's, claims 8, 15, and 21 have shown they can be read broadly enough to encompass both

interpretations.  The examiner has interpreted an exclusion zone that to be when the check is

"excluded" from further processing due to the presence of potential fraudulent activity within the

check document image, on the onset of a low confidence score (0% match or "No" to the

answers within FIG. 4). This situation may arise on multiple occasions (or "zones") within the

method of Stolfo, including identifying code, signature, and date matching.

## *Conclusion*

11.     If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Brian Werner can be reached on (571) 272-7401. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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